

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
8 April 2004 (08.04.2004)

PCT

(10) International Publication Number
WO 2004/029645 A1

(51) International Patent Classification⁷: G01R 33/38

(21) International Application Number:
PCT/GB2003/004237

(22) International Filing Date:
30 September 2003 (30.09.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0222625.6 30 September 2002 (30.09.2002) GB
0306945.7 26 March 2003 (26.03.2003) GB

(71) Applicant (for all designated States except US): OXFORD
INSTRUMENTS PLC [GB/GB]; Old Station Way, Eyn-
sham, Witney, Oxford OX8 1TL (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): MCDOUGALL,
Ian, Letch [GB/GB]; 16 Lees Heights, Charlbury, Oxon

OX8 3EL (GB). HANLEY, Peter [GB/GB]; Western
Lodge, Parkend, Lydney, Gloucestershire GL15 4JQ
(GB). SLADE, Robert, Andrew [GB/GB]; Grey Cottage,
Mill Lane, Cassington, Witney, Oxon OX8 1DL (GB).
HAWKES, Robert, Carter [GB/GB]; Derrymore House,
3 Old Rectory Drive, Dry Drayton, Cambridge CB3 8BU
(GB).

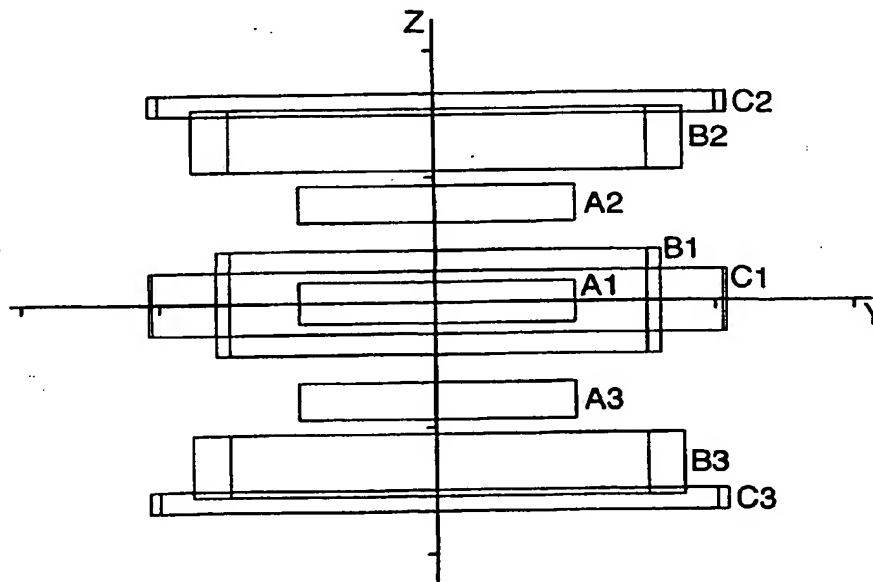
(74) Agent: GILL JENNINGS & EVERY; Broadgate House,
7 Eldon Street, London EC2M 7LH (GB).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE,
GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,
MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT,
RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR,
TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: MAGNETIC FIELD GENERATING ASSEMBLY AND METHOD



(57) Abstract: A magnetic field generating assembly comprising a set (A1-A3;B1-B3;C1-C3) of, typically substantially coaxial, coils substantially symmetrically arranged about a plane orthogonal to the axis. At least some of the coils carry working currents in the opposite sense to the other coils. The arrangement of turns and working currents carried by the coils is such that a first working volume (10) with a substantially homogeneous magnetic field is generated within the envelope defined by the assembly, and two second working volumes (11) each with a substantially homogeneous magnetic field are generated outside the envelope, the homogeneity of each of the first and second working volumes being sufficient to perform a NMR experiment on a sample in the working volume.

BEST AVAILABLE COPY

WO 2004/029645 A1



European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

BEST AVAILABLE COPY